

Customer No.: 31561
Application No.: 10/604,692
Docket No.: 10156-US-PA

REMARKS

Present Status of the Application

The Office Action rejected claims 1, 4-6, 8-10 and 35-37 under 35 U.S.C. 102(b) as being anticipated by Kamigaki et al. (US 6,894,344; "Kamigaki"), and rejected claims 11 and 12 under 35 U.S.C. 103(a) as being unpatentable over Kamigaki in view of Schwabe et al. (US 4,257,832; "Schwabe"). In response thereto, Applicants have further amended independent claims 1 and 35 and submitted the following remarks. Reconsideration of claims 1, 4-6, 8-12 and 35-37 is respectfully requested.

Discussion of Rejections under 35 U.S.C. 102(b)

Claims 1, 4-6, 8-10 and 35-37 were rejected as being anticipated by Kamigaki.

One feature of amended independent claims 1 and 35 is that the at least two separated but shorted conductive pieces of the split gate are arranged adjacently to form the at least one split region without any other conductor in the at least one split region.

Kamigaki fails to disclose the above feature. As shown in FIG. 2 and related figures, the two separated but shorted gates 7-1 (= conductive pieces) of the split gate in Kamigaki are disposed with a switch gate 6 (paragraph [0137]) between them *as another conductor in the split region*, as being contrary to the case of the above feature. The split region of the split gate in FIG. 2 of Kamigaki should be defined *according to the specification and the drawings of this invention* and thus covers the broad region between the two gates 7-1 with the switch gate 6 as another conductor therein, for the term "split region" is never

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used to describe a split gate structure of Kamigaki's type or the like in the prior art.

Moreover, the memory cell in amended claims 1 and 35 is not a simplified version of the one in FIG. 2 of Kamigaki obtained by omitting the switch gate 6 and moving the two gates 7-1 closer to each other, *because the design concepts of the two memory cells are entirely different*. More specifically, Kamigaki is intended to create two charge storage sites respectively under two gates, so that the shorted gates 7-1 in FIG. 2 thereof cannot be arranged adjacently. As a result, a switch gate 6 is required for turning on the channel between the two channels under the two gates 7-1. On the other hand, as shown in FIG. 2A and described in [0028], the spirit of this invention is to utilize the higher electric field caused by the opposite angled edges of the adjacently arranged conductive pieces of the split gate to inject charges into the trapping layer around the split region. Accordingly, the operating method of claim 35 of this invention is also non-obvious over Kamigaki.

For at least the above reasons, Applicants respectfully submit that claims 1 & 35 and claims 4-6, 8-10 & 36-37 dependent therefrom patently define over the prior art.

Discussion of Rejections under 35 U.S.C. 103(a)

Claims 11-12 were rejected as unpatentable over Kamigaki in view of Schwabe.

As mentioned above, Kamigaki fails to disclose the feature of claim 1 that the at least two separated but shorted conductive pieces of the split gate are arranged adjacently to form the at least one split region without any other conductor therein. Schwabe, which is cited for the features of claims 11-12, also fails to disclose this feature. Kamigaki and

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Schwabe either do not suggest or imply the above feature, for their gate structures and the corresponding operation mechanisms are much different from those of this invention. Hence, at least the above feature cannot be obtained from "Kamigaki + Schwabe".

For at least the above reasons, Applicants respectfully submit that claims 11-12 dependent from claim 1 also patently define over the prior art.

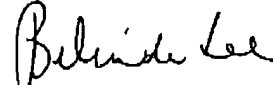
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CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1, 4-6, 8-12 and 35-37 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,


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